



People Plus / MyPay / EzHire / Thrift Savings / WebForms

Phone Directory

go

Directory Search

8-Net Home

Announcements

Environment

Forms

Guidance

Trail

8-Net &gt; Headlines

---

## Headlines

### Independent Record: Selenium source 'a mystery' at Asa

---

[http://www.helenair.com/articles/2007/10/31/helena/a011031\\_02.txt](http://www.helenair.com/articles/2007/10/31/helena/a011031_02.txt)

## Selenium source 'a mystery' at Asarco

By *EVE BYRON* - Independent Record - 10/31/07

Asarco may expand its well-monitoring program to the north and east of the city of East Helena as it tries to get a better idea of movement of arsenic and selenium in groundwater below the community.

During its annual corrective action update meeting at the East Helena fire hall, Jon Nickel, Asarco's environmental manager, told the crowd of about 50 people that all of the residential wells tested downhill of the former lead smelting plant in which arsenic or selenium were detected have those elements below federal drinking water standards.

"The water in residential wells on Gail Street is of excellent quality," Nickel said.

However, two irrigation wells are showing levels of either arsenic or selenium above those standards, and the property owners have been warned against consuming water from those wells.

Bob Miller, an Asarco hydrologist, added that they're finding there's a lot more movement of arsenic in groundwater a bit deeper than previously thought. In fact, one monitoring well tested near the corner of Fourth and Groschell streets detected arsenic at 2 parts per million (ppm), which is 200 times the federal drinking water standard of .01 ppm. The depth to groundwater in that monitoring well was 28 feet.

Selenium in that well was detected at .186 ppm, which is more than three times the .05 federal drinking water standard.

Even though both elements can be found in the natural environment, they're also known byproducts of the lead smelting industry. Arsenic is a known carcinogen, and while selenium is needed in trace amounts for good health — it's even included in some multi-vitamins — short-term exposure

## organizations

- + ECEJ
- + Environmental Data
- + OCPI
- + OEPR
- + OPRA
- + RA
- + Regional Activities
- + Regional Counsel
- + TMS

## Key to Program Offices

## topics

- Human Resources
- Computers & Phones
- Planning, Budget & Mgt
- Workgroups and Teams
- Facilities, Safety, & Security
- Grants & Procurement
- Records
- Finance & Accounting
- Travel
- Civil Rights

to high concentrations can cause nausea, vomiting and diarrhea, with chronic exposure causing hair loss, nail brittleness and neurological abnormalities.

Asarco readily admits it is the source of the arsenic in the groundwater and is taking steps on the idled plant site to control its movement off-site. However, selenium is being detected in higher levels off-site than in groundwater under the smelter, Miller said, and while Asarco is trying to figure out how to deal with the elevated levels under the town, the source of the selenium "is a mystery."

"Selenium is a story we are still sorting out," Miller said. In a week or two we'll have expanded the monitoring effort to try to get a better idea of where we have elevated selenium in the East Helena area and why we haven't seen it on the plant site so far."

Asarco idled its 142-acre East Helena facility in April 2001, blaming the shutdown on economics. But even though metal prices have soared in recent years, the plant remains shuttered, and Asarco is in the process of tearing down most of the buildings.

That led former Asarco employee Dave Duel to ask Nickel whether the plant is permanently shut down, or if it was still a "temporary closure," which prompted laughter from the crowd.

"Any questions as to the operational status of the plant have to be directed to our corporate level," Nickel responded.

Most of the demolition involved structures that sit above the source of the arsenic plume, where the deadly element has been detected in the groundwater at 229 ppm, or about 22,900 times the drinking water standard. The company is digging trenches 30 feet or deeper in this area to install a "slurry wall," which it hopes will lessen the off-site arsenic migration.

The company and the Environmental Protection Agency also are discussing further installation of an on-site "permeable reactive barrier," which consists of filling a trench with iron filings that will bond with the arsenic to hold it in place while the groundwater passes through.

Nickel reiterated the offer by Asarco to test the wells of anyone who has questions about the arsenic and selenium.

"Anyone who wants to have their well sampled can contact me and at no charge we'll integrate it into our current monitoring plan," Nickel said.

Reporter Eve Byron: 447-4076

or [eve.byron@helenair.com](mailto:eve.byron@helenair.com)

---

For additional information, please contact Frank Montarelli.

---



url: [http://R8net.epa.gov/8-Net.nsf/All+Web+Documents/0A6E9A189C45BE8987257385006100D8?](http://R8net.epa.gov/8-Net.nsf/All+Web+Documents/0A6E9A189C45BE8987257385006100D8?OpenDocument)  
OpenDocument